

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A device including slots for a plurality of hot-swappable physical interface cards, the device comprising:

an interface designed to receive the physical interface cards, each physical interface card designed to receive information using at least one of a plurality of physical network interface standards;

a plurality of power supply lines for supplying power from the device to the physical interface card through the interface;

an on/off power control circuit connected to the plurality of power supply lines to control power supplied to the power supply lines; and

a power monitor circuit connected to each of the plurality of power supply lines, the power monitor circuit determining when the power supplied to each of the power supply lines stabilizes; and

a controller connected to the on/off power control circuit, the controller, in response to detecting the presence of the physical interface card in the interface, instructing the on/off power control circuit to turn on the plurality of power supply lines and to ramp the power supplied to each one of the turned on power supply lines, the controller additionally causing the device to restart a power-up procedure implemented by the on/off power control circuit and the power monitor circuit when the power monitor circuit determines that the power supplied to one of the power supply lines has not stabilized after a pre-determined time period.

2. (previously presented) The device of claim 1, wherein the controller detects the presence of the physical interface card in the interface by detecting an electrical connection with a predetermined pin in the physical interface card.

3. (previously presented) The device of claim 2, wherein the predetermined pin in the physical interface card is designed to be the last pin to come into contact with the interface.

4. (previously presented) The device of claim 1, further comprising:
a packet I/O manager connected to the physical interface card through a high-speed bus, the packet manager receiving packets of information from the physical interface cards over the high-speed bus.

5. (previously presented) The device of claim 4, further comprising:
a memory connected to the packet I/O manager for storing the packets received by the packet I/O manager.

6. (canceled)

7. (previously presented) The device of claim 1, further comprising:
a plurality of switches controlled by the on/off power control circuit; and
a plurality of power supplies, one of the plurality of power supplies being connected to each of the power supply lines through a corresponding one of the plurality of switches.

8. (currently amended) The device of claim 7, wherein the plurality of power supplies supply at least one of 1.5 volt, 2.5 volt, 3.3 volt, ~~and~~ or 5 volt power.

9. (previously presented) The device of claim 1, wherein the physical interface cards are designed to receive information over at least one of an Ethernet connection, an optical connection over ATM, and an optical connection over SONET.

10. (previously presented) The device of claim 1, wherein the device is a router.

11. (currently amended) A method of responding to the insertion of an interface card into a device during run-time operation of the device, the method comprising:

detecting an electrical connection of the interface card to the device; ~~and~~

turning on each of a plurality of power lines in the device that lead to the interface card, each of the plurality of power lines being turned on by ramping a power supply to a predetermined maximum voltage value over a predetermined time period, where larger predetermined maximum voltage values are ramped over a longer predetermined time period;

monitoring the turned-on power lines for stability; and

restarting the turning on each of the plurality of power lines when the monitoring detects that one of the turned-on power supply lines has not stabilized after a second predetermined time period.

12. (previously presented) The method of claim 11, wherein the electrical connection of the interface card to the device is detected by detecting an electrical connection with a predetermined pin in the interface card.

13. (previously presented) The method of claim 12, wherein the predetermined pin in the interface card is designed to be the last pin to come into contact with the device.

14. (canceled)

15. (previously presented) The method of claim 11, further including receiving packets of information from the interface cards over a high-speed bus connected to the device.

16. (currently amended) The method of claim 11, wherein the interface cards are designed to receive information over at least one of an Ethernet connection, an optical connection over ATM, ~~and~~ or an optical connection over SONET.

17. (currently amended) A method of responding to the removal of an interface card from a physical interface of a device during run-time operation of the device router, the method comprising:

detecting, at a controller in the device ~~packet forwarding engine~~, a physical removal of the interface card from the physical interface of the device;

clearing a data bus connected between the controller and the physical interface;

blocking signals caused by removal of the interface card on control lines between the physical interface and the controller; and

turning off each of a plurality of power lines in the device that lead to the interface card, each of the plurality of power lines being turned off by ramping down the power supply over a predetermined time period.

18. (previously presented) The method of claim 17, wherein the removal of the electrical connection of the interface card to the device is detected by detecting an absence of an electrical connection at a predetermined pin in the interface card.

19. (previously presented) The method of claim 18, wherein the predetermined pin in the interface card is designed to be the first pin to break contact with the device.

20. (currently amended) The method of claim 18, wherein the interface cards are designed to receive information over at least one of an Ethernet connection, an optical connection over ATM (asynchronous transfer mode), ~~and~~ or an optical connection over SONET.

21. (currently amended) A hot-swappable physical interface card designed to be inserted into a network device comprising:

a first interface to one of a plurality of types of network connections; and

a second interface configured to connect the physical interface card to the device, the interface including connections for receiving:

a plurality of power supply lines through which power is received from the device, the device activating the plurality of power supply lines by ramping the power supplied to each one of the power supply lines in response to the device detecting insertion of the physical interface card and the device restarting supplying of power through the power supply lines when the device detects that the power supplied to one of the power supply lines has not stabilized after a pre-determined time period;

a control bus; and

a high-speed data bus for communicating packets of information with the device.

22. (previously presented) The physical interface card of claim 21, the control bus including connections for receiving:

control lines connected to a controller on the device, the control lines including a pin detection line, the device detecting the presence of the physical interface card by detecting an electrical connection through the pin detection line.

23. (previously presented) The physical interface card of claim 21, wherein the pin detection line is the last line in the physical interface card to come into contact with the device.

24. (currently amended) The physical interface card of claim 21, wherein the physical interface card is designed to receive information over at least one of an Ethernet connection, an optical connection over ATM, ~~and~~ or an optical connection over SONET.

25. (currently amended) The physical interface card of claim 21, wherein the power supply lines supply at least one of 1.5 volt, 2.5 volt, 3.3 volt, ~~and~~ or 5 volt power to the physical interface card.

26. (currently amended) The physical interface card of claim 21, wherein the pin detection line is the first line in the interface to break contact with the ~~router~~ device when the physical interface card is removed from the router.

27. (previously presented) The physical interface card of claim 21, wherein the device is a network router.

28. (previously presented) The device of claim 1, wherein the power supplied to each one of the turned on power supply lines is ramped over a time period between about 5 to 20 milliseconds.

29. (previously presented) The method of claim 11, wherein the predetermined time period is between about 5 milliseconds to 20 milliseconds.

30. (previously presented) The method of claim 17, wherein the predetermined time period is between about 5 milliseconds to 20 milliseconds.

31. (previously presented) The physical interface card of claim 21, wherein the power is ramped to the plurality of power supply lines over a time period between about 5 to 20 milliseconds.